

PennEngineering®

SELF-CLINCHING BLIND FASTENERS



BULLETIN **B**



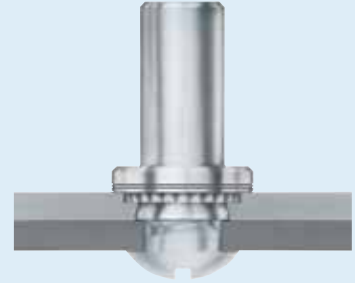
## SELF-CLINCHING BLIND FASTENERS

PEM® brand self-clinching blind fasteners provide permanently mounted blind threads in metal sheets as thin as .040" / 1 mm.

- Provides barrier to protect threads against foreign matter.
- Limits screw penetration, protecting internal components from potential damage.

PEM blind fasteners employ the proven PEM self-clinching design and are easily installed into properly sized holes. Shanks of PEM fasteners act as their own pilots. PEM blind fasteners can be installed with any standard press applying squeezing forces between parallel surfaces.

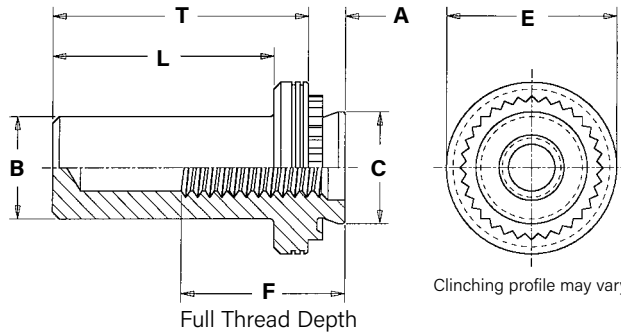
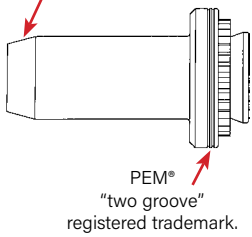
PEM self-clinching blind fasteners are available in thread sizes from #4-40 through 1/4-20 / M3 through M6 in carbon or stainless steel.



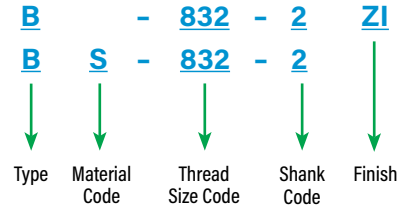
Fastener drawings  
and models are  
available at  
[www.pemnet.com](http://www.pemnet.com)

# SELF-CLINCHING BLIND FASTENERS

Metric parts are identified by large chamfer at blind end.



## PART NUMBER DESIGNATION



All dimensions are in inches.

UNIFIED	Thread Size	Type		Thread Code	Shank Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size in Sheet + .003 - .000	B Max.	C Max.	E ± .010	F Min.	L Max.	T ± .010	Min. Dist. Hole $\varnothing$ to Edge
		Fastener Material													
		Steel	Stainless Steel												
.112-40 (#4-40)	B	BS	440	1	.038	.040	.166	.150	.165	.250	.210	.335	.380	.19	
				2	.054	.056									
.138-32 (#6-32)	B	BS	632	1	.038	.040	.1875	.169	.187	.280	.230	.335	.380	.22	
				2	.054	.056									
.164-32 (#8-32)	B	BS	832	1	.038	.040	.213	.204	.212	.310	.280	.385	.440	.27	
				2	.054	.056									
.190-32 (#10-32)	B	BS	032	1	.038	.040	.250	.235	.249	.340	.280	.385	.440	.28	
				2	.054	.056									
.250-20 (1/4-20)	B	BS	0420	1	.054	.056	.344	.305	.343	.430	.310	.500	.560	.34	
				2	.087	.090									

All dimensions are in millimeters.

METRIC	Thread Size x Pitch	Type		Thread Code	Shank Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size in Sheet + 0.08	B Max.	C Max.	E ± 0.25	F Min.	L Max.	T ± 0.25	Min. Dist. Hole $\varnothing$ to Edge
		Fastener Material													
		Steel	Stainless Steel												
M3 x 0.5	B	BS	M3	1	0.97	1	4.22	3.84	4.2	6.35	5.3	8.5	9.6	4.8	
				2	1.38	1.4									
M4 x 0.7	B	BS	M4	1	0.97	1	5.41	5.2	5.38	7.95	7.1	9.8	11.2	6.9	
				2	1.38	1.4									
M5 x 0.8	B	BS	M5	1	0.97	1	6.35	6.02	6.33	8.75	7.1	9.8	11.2	7.1	
				2	1.38	1.4									
M6 x 1	B	BS	M6	1	1.38	1.4	8.75	7.8	8.73	11.1	7.8	12.7	14.3	8.6	
				2	2.21	2.29									

## MATERIAL AND FINISH SPECIFICATIONS

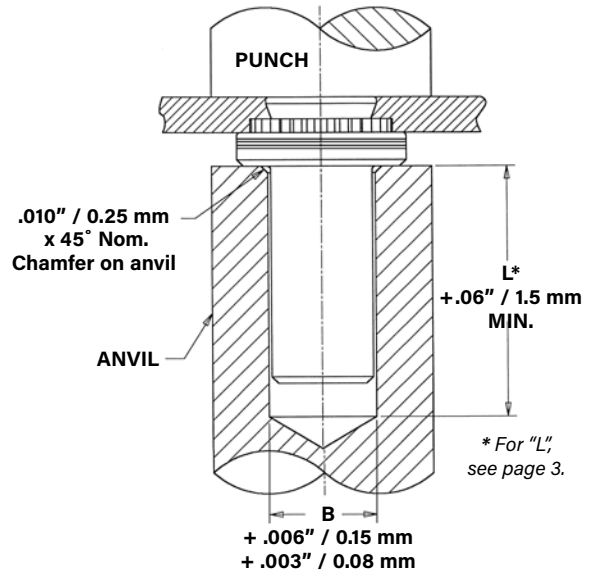
	Threads	Fastener Materials		Standard Finishes		For Use in Sheet Hardness: (2)	
Type	Internal, ASME B1.1, 2B / ASME B1.13M, 6H	Hardened Carbon Steel	300 Series Stainless Steel	Passivated and/or Tested Per ASTM A380	Zinc Plated, 5µm, Colorless (1)	HRB 80 / HB 150 or less	HRB 70 / HB 125 or less
B	■	■			■	■	
BS	■		■	■			■
Part Number Code For Finishes				None	ZI		

(1) See PEM Technical Support section of our web site ([www.pemnet.com](http://www.pemnet.com)) for related plating standards and specifications.  
 (2) HRB - Hardness Rockwell "B" Scale. HB - Hardness Brinell.

# SELF-CLINCHING BLIND FASTENERS

## INSTALLATION

1. Prepare properly sized mounting hole in the sheet. Do not perform any secondary operations such as deburring.
2. Place the barrel of the fastener into the anvil hole and place the mounting hole (preferably the punch side) over the shank of the fastener.
3. With the installation punch and anvil surfaces parallel, apply squeezing force until the flange contacts the mounting sheet. The sketch at the right indicates suggested tooling for applying these forces.



## PEMSERTER® Installation Tooling

Type	Thread Code	Anvil Part Number	Punch Part Number
B/BS	440/M3	975200001	975200048
B/BS	632	975200002	975200048
B/BS	832/M4	975200003	975200048
B/BS	032/M5	975200004	975200048
B/BS	0420/M6	975200005	975200048

- INSTALLATION NOTES**
- For best results we recommend using a PEMSERTER® press for installation of PEM Types B and BS fasteners. Please check our website for more information.
  - Visit the Animation Library on our website to view the installation process [for this product](#).

## PERFORMANCE DATA<sup>(1)</sup>

UNIFIED	Thread Code	Shank Code	Sheet Thickness (in.)	Test Sheet Material				
				5052-H34 Aluminum			Cold-Rolled Steel	
				Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.)	Installation (lbs.)	Pushout (lbs.)
440	1	.040	1600	90	10	2500	125	13
	2	.056	2000	170	13	3500	230	18
632	1	.040	1800	95	17	3000	130	18
	2	.056	2800	190	22	4000	260	28
832	1	.040	2000	105	23	3500	135	30
	2	.056	3000	220	35	5000	285	45
032	1	.040	2100	110	32	4000	140	35
	2	.056	3500	190	50	5000	250	60
0420	1	.056	4000	315	90	6000	400	105
	2	.090						

METRIC	Thread Code	Shank Code	Sheet Thickness (mm)	Test Sheet Material				
				5052-H34 Aluminum			Cold-Rolled Steel	
				Installation (kN)	Pushout (N)	Torque-out (N-m)	Installation (kN)	Pushout (N)
M3	1	1	7.1	400	1.15	11.1	550	1.5
	2	1.4	9	750	1.47	14	1010	2.05
M4	1	1	8.9	470	2.6	15.6	600	3.4
	2	1.4	12.5	970	4	20	1250	5.1
M5	1	1	9.3	480	3.6	17.8	620	4
	2	1.4	14	845	5.7	25	1112	6.8
M6	1	1.4	17.8	1400	10.2	25.7	1760	11.9
	2	2.3						

(1) Published installation forces are for general reference. Actual set-up and confirmation of complete installation should be made by observing proper seating of fastener as described in the installation steps. Other performance values reported are averages when all proper installation parameters and procedures are followed. Variations in mounting hole size, sheet material, and installation procedure may affect performance. Performance testing this product in your application is recommended. We will be happy to provide technical assistance and/or samples for this purpose.

All PEM® products meet our stringent quality standards. If you require additional industry or other specific quality certifications, special procedures and/or part numbers are required. Please contact your local sales office or representative for further information.

Regulatory compliance information is available in Technical Support section of our website. Specifications subject to change without notice. See our website for the most current version of this bulletin.

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